J. L. Paige.

Steam Boiler Furnace.

No. 85,688. Patented Jan. 5, 1869.

Fig. 1.

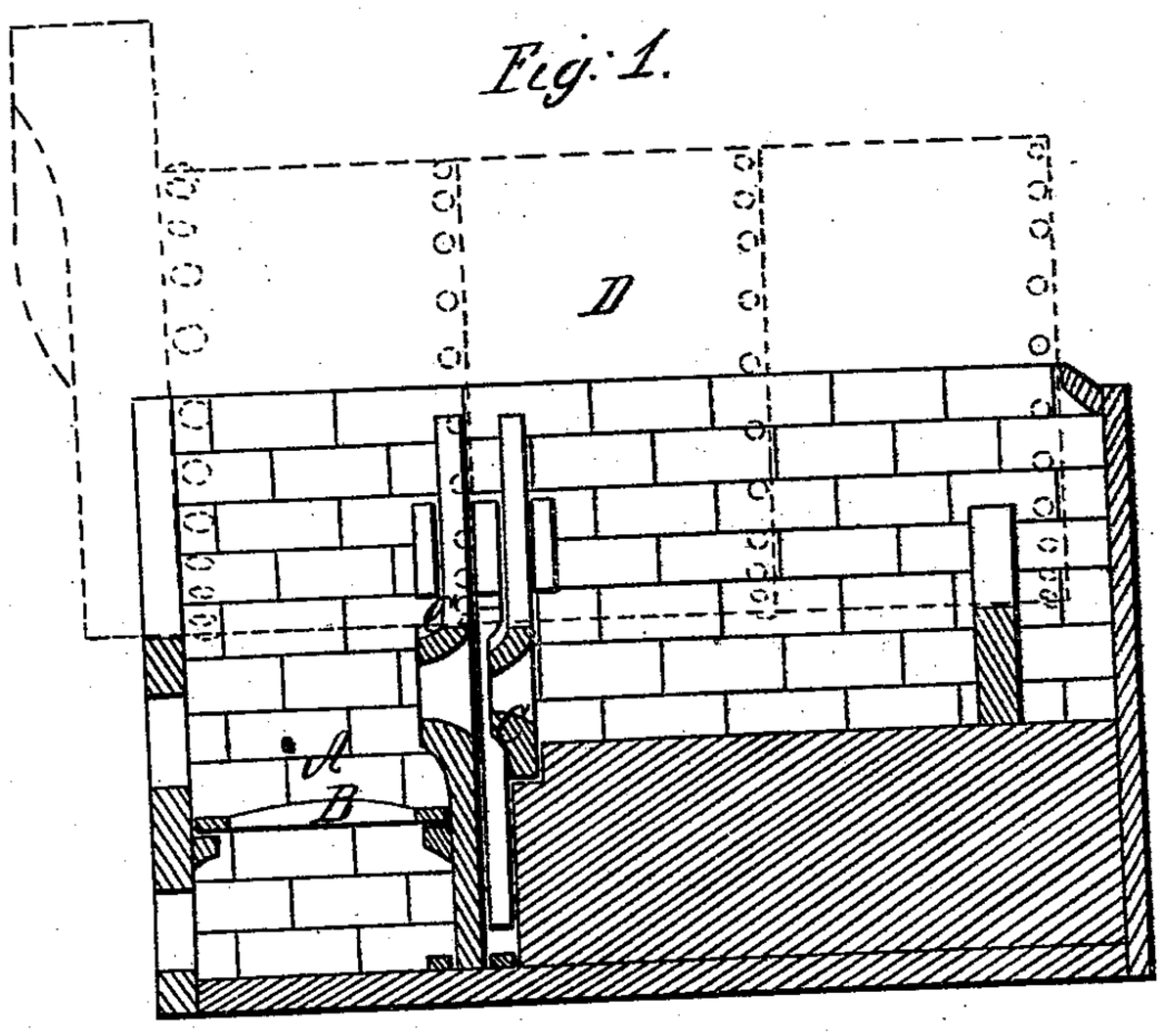


Fig. 2.

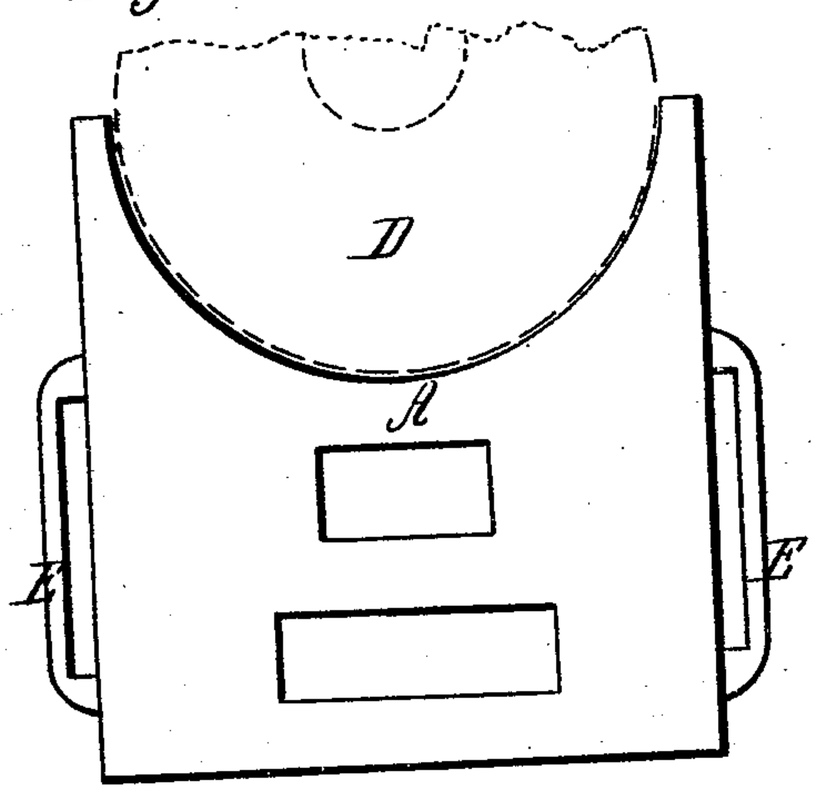
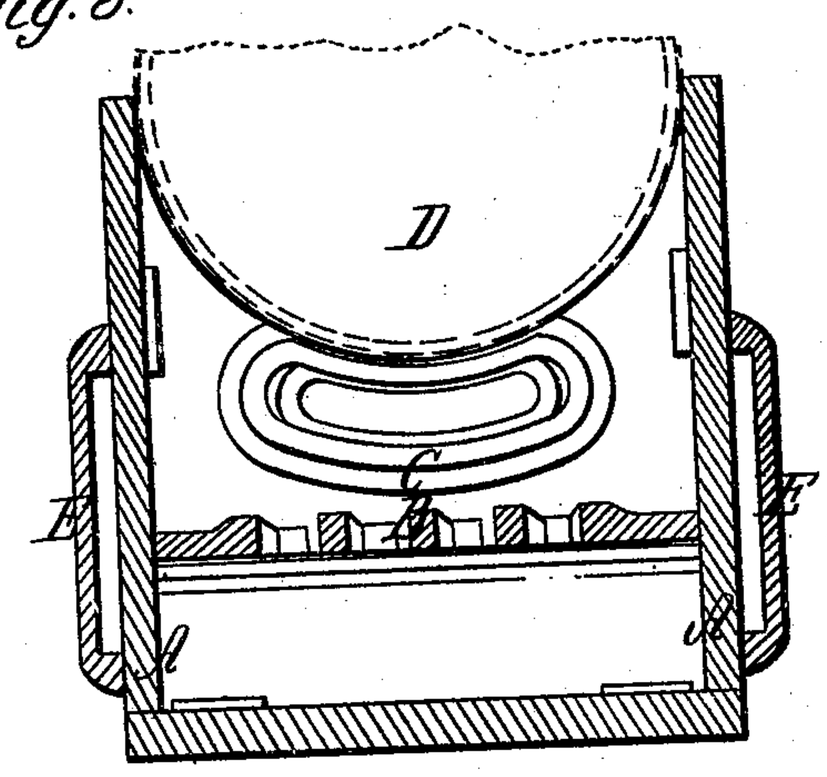


Fig. 3.



Witnesses;
Harry King
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Inventor;
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Attys

United States Patent Office.

J. L. PAIGE, OF ROCHESTER, NEW YORK.

Letters Patent No. 85,688, *dated January* 5, 1869.

IMPROVEMENT IN STEAM-BOILER FURNACES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, J. L. PAIGE, of Rochester, in the county of Monroe, and in the State of New York, have invented certain new and useful Improvements in "Furnaces for Steam-Boilers;" and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the construction of plates at a proper point inside a furnace, so as to concentrate the gases from the fire to a proper focus to produce combustion, when air is admitted from the outside at that point; also, in the construction of air-chambers, to conduct the air to the point where the gases have been thus concentrated to produce the combustion, whereby the gases and smoke arising from the fire are almost entirely consumed.

In order to enable others skilled in the art to which my invention appertains, to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation in section;

Figure 2, a front view; and

Figure 3, a cross-section.

A represents a furnace, made in any of the known and usual ways.

B is the grate, on which the fuel is placed.

At a suitable distance, in rear of the fire-place, are placed two plates, C C, in a vertical position, which plates, when the boiler D rests on them, form a chamber or passage between them, as seen in fig. 1.

The plates C C are each provided with a suitable opening, so that the gases from the fire are concentrated before passing out through the plates.

On each side of the furnace A is a chamber, E, which is open at the front end of the furnace, and leads into the chamber or passage formed by the two plates C C, inside of the furnace, conducting air into the same.

When, now, the air is admitted, and strikes the gases concentrated in the openings on the plates C C, combustion is produced, and nearly all the gases and smoke from the fire are entirely consumed.

I am aware the admission of air from the exterior of a furnace, behind the bridge-wall, either hot or cold, is not new.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The flaring plates C C′, constructed with elliptical-shaped openings, and placed in the rear of the grate of a furnace, with their narrowest portions nearest the fire, substantially as set forth.

2. The combination of the plate C, as constructed and arranged in the rear of the grate, with the rear plate C′ of like construction, when the plates C C′ are so placed as to allow an air-channel between them, which communicates with one or more chambers E, substantially as specified.

In testimony that I claim the foregoing, I have hereunto set my hand, this 10th day of September, 1868.

J. L. PAIGE.

Witnesses:

LEOPOLD EVERT,

A. N. MARR.